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And now if interest has been awakened in these minutest of the pet nurslings of nature, the next step is to collect, examine and preserve them. Do not stop at that point let me beg of you, for it is but the threshold ; but seek to discover the entire life-history of the species around you. Uncounted problems of supremest interest await the verdict of those researches. Only by such work can the foundation of a true and permanent classification of the algæ be laid. Questions of far-reading importance follow regarding their relations to the fungi, and to animal life, and their ultimate part in the scale of nature. Uses the algæ may have, many and as yet unknown ; but perhaps none more important will ever be discovered than their service which science already knows, that of furnishing a means by which to learn of the origin and the processes of life. The algæ as among the simplest of living things stand close to the gateway whence life first entered into the world, and invite the hope that their investigation may yield many important additions to the world's knowledge of what life is.

REVIEW OF THE PROGRESS OF NORTH AMERICAN PALÆONTOLOGY FOR THE YEAR 1887.

BY JOHN BELKNAP MARCOU.

I REGRET that, owing to the delay in the publication of the Smithsonian report for 1886, my record of North American palæontology for that year has not yet appeared, and the date of its publication is still uncertain. For this reason I again publish in the AMERICAN NATURALIST a brief review of the titles of the new works on North American palæontology, which I have collected during the year 1887, in order to give the workers in this branch of science a brief view of the work of the past year, leaving all abstracts, notes and comments to another paper, which will be published either by the Smithsonian Institution or the U. S. Geological Survey.

Truman H. Aldrich, in Jour. Cincinnati Soc. Nat. Hist., Vol.

X., No. 2, pp. 78-83, has "Notes on Tertiary Fossils, with Descriptions of New Species."

Henri M. Ami has an article "On the Occurrence of *Scolithus* in Rocks of the Chazy Formation about Ottawa, Ontario" in *Canad. Rec. Sci.*, Vol. II., p. 304; on p. 429 he has one on "The Mica Formation in Canada"; in the *Ottawa Naturalist*, Vol. I., No. 9, p. 121, he has another, entitled "Notes on and the Precise Geological Horizon of *Siphonotreta scotia*"; with T. E. W. Sowter on p. 93, he publishes "Report on the Geological Branch."

L. W. Bailey, in *Trans. Roy. Soc. Canada* for 1886, Section IV., p. 35, has an article "On the Silurian System of Northern Maine, New Brunswick and Quebec."

G. Baur publishes in *AMER. NATURALIST*, Vol. XXI., p. 837, an article "On the Morphology and Origin of the Ichthyopterygia."

Chas. S. Beachler has an article on "Crinoid Beds at Crawfordsville, Indiana," in *AMER. NATURALIST*, Vol. XXI., p. 1106.

Chas. E. Beecher, in *Thirty-ninth Ann. Rep. Trustees N. Y. Sta. Mus. Nat. Hist.* for 1885, p. 161, has an article entitled "A Spiral Bivalve from the Waverly Group of Pennsylvania."

Walter R. Billings has "A New Genus and Three New Species of Crinoids from the Trenton Formation, with Notes on a large specimen of *Dendrocrinus proboscidiatus*" in the *Ottawa Naturalist*, Vol. I., No. 4, pp. 49-54.

J. P. Bishop, in *Nature*, Vol. XXXV., p. 237, has an article "On Certain Fossiliferous Limestones of Columbia County, New York, and their Relation to the Hudson River Shales and the Taconic System."

G. S. Boulger has an article "On the Connection in Time of Changes in Fossil Floras with those of Faunas" in *Proc. Geol. Ass.*, Vol. IX., No. 7, p. 482.

C—— has "A Noteworthy Specimen of Devonian *Lepidodendron*" in *Science*, Vol. IX., No. 225, p. 516.

J. H. Chapin has "An Interesting Find" in *Proc. and Trans. Merid. Sci. Assoc.*, Vol. II., p. 29.

Chapman, E. J., in *Canad. Rec. Sci.*, Vol. II., p. 431, has an article "On the Classification of Trilobites."

J. M. Clarke publishes "Annelid Teeth from the Lower Portion

of the Hamilton Group and from the Naples Shales of Ontario County, N. Y.," and [Communication concerning Mastodon Bones found at Utica, Wyoming County, N. Y.], in Sixth Ann. Rep. N. Y. State Geologist for the year 1886, p. 30 and p. 34.

H. W. Conn has a review of "Cope's Origin of the Fittest" in *AMER. NATURALIST*, Vol. XXI., p. 465.

J. G. Cooper publishes "Corrections of Article 'On Fossil and Sub-Fossil Land Shells in the United States,' in Bull. No. 4," in Bull. California Acad. Sci., Vol. II., No. 7, p. 376, and "West Coast Pulmonata; Fossil and Living," in Bull. California Acad. Sci., Vol. II., No. 7, p. 355, and No. 8, p. 497.

E. D. Cope has in *AMER. NATURALIST*, Vol. XXI., p. 468, "American Triassic Rhynchocephalia; on page 1019 of the same journal he has "A Sabre-tooth Tiger from the Loup Ford Beds"; on page 171 of the same journal he has "Formations of the Belly River of Canada"; on page 924 of the same journal he has "Scott and Osborn on White River Mammalia"; on page 469 of the same journal he has "Some New Tæniodonta of the Puerco"; on page 367 of the same journal he has "The Dinosaurian Genus *Cœlurus*"; on page 566 of the same journal he has "The Marsupial Genus *Chirox*"; on page 445 of the same journal he has "The Mesozoic and Cænozoic Realms of the Interior of North America"; on pp. 985 and 1060 of the same journal he has "The Perissodactyla"; on page 573 of the same journal he has "The Sea-Saurians of the Fox Hills Cretaceous"; in *Geol. Mag., New Ser., Sec. III., Vol. IV.*, p. 572, he has "Lydekker, Boulanger and Dollo on Fossil Tortoises"; in *Proc. Amer. Phil. Soc., Vol. XXIII.*, p. 234, he has an article "On the Structure of the Brain and Auditory Apparatus of a Theromorphous Reptile of the Permian Epoch"; in the same journal, p. 357, he has "On Two New Species of Three-toed Horses from the Upper Miocene, with Notes on the Fauna of the Ticholeptus Beds"; on p. 146 of the same journal he has "Report on the Coal Deposits near Zacualtipan, in the State of Hidalgo, Mexico."

T. Nelson Dale has an article "On 'New England Upper Silurian'" in *Proc. Canad. Inst., Third Ser., Vol. IV., Fasc. No. 1*, p. 69.

William H. Dall, in *Amer. Jour. Sci., Third Ser., Vol. XXIV.*, publishes "Notes on the Geology of Florida."

C. H. S. Davis has "*The Catopterus gracilis*" in the Proc. and Trans. Merid. Sci. Assoc., Vol. II., p. 19.

Dawson, George M., in Geol. and Nat. Hist. Survey of Canada, p. 1, has "Notes to accompany a Geological Map of the Dominion of Canada, East of the Rocky Mountains."

Dawson, Sir J. Wm., has an article "On Canadian Examples of Supposed Fossil Alga" in Rep. British A. A. A. S., 1886, Birmingham Meeting, p. 651; in Canad. Rec. Sci., Vol. II., p. 404, he has an article "On the Correlation of the Geological Structure of the Maritime Provinces of Canada"; in same, p. 499, he has "Notes on Fossil Woods from the Western Territories of Canada"; he has, in Nature, Vol. XXXVI., p. 574, an article "On New Facts relating to Eozoon Canadense"; in Trans. Roy. Soc. Canada for 1886, Section IV., p. 1, he has "Presidential Address: Some Points in which American Geologic Science is indebted to Canada"; in same, p. 19, he has an article "On the Fossil Plants of the Laramie Formation of Canada."

Drummond, A. T., in Canad. Rec. Sci., Vol. II., p. 412, has an article on "The Distribution and Physical and Post-Geological Relations of British North American Plants."

P. Martin Duncan has an article "On a New Genus of Madreporaria—Glyphastræa, with Remarks on the Glyphastræa Forbesi, Edw. and H., sp. from the Tertiaries of Maryland, U. S.," in Geol. Mag., New Ser., Dec. III., Vol. IV., p. 43; in Quart. Jour. Geol. Soc., Vol. XLIII., p. 24, he has an article "On a New Genus of Madreporaria (Glyphastræa), with Remarks on the Morphology of Glyphastræa Forbesi, Ed. and H., from the Tertiaries of Maryland, U. S."; in Am. and Mag. Nat. Hist., Ser. 5, Vol. XIX., p. 260, he has "A Reply to Dr. J. G. Hinde's Communication 'On the Genus Hindia Dunc., and the Name of its Typical Species.'"

William B. Dwight publishes "Primordial Rocks of the Wappinger Valley Limestones" in Vassar Bros. Inst. Trans., Vol. IV., p. 130; in same, p. 206, he has "Primordial Rocks of the Wappinger Valley Limestones and Associate Strata"; in AMER. NATURALIST, Vol. XXI., p. 270, he has "Palæontological Observations on the Taconic Limestones of Canaan, Columbia County, N. Y."; and in Amer. Jour. Sci., Third Ser., Vol. XXXIV., p. 27, he has "Recent Explorations in the Wappinger Valley Limestone of Dutchess County, N. Y."

R. Etheridge and P. H. Carpenter publish "A Catalogue of the Blastoides in the Geological Department of the British Museum of Natural History" in *AMER. NATURALIST*, Vol. XXXI., p. 68.

A. F. Foerste publishes in *Bull. Sci. Laboratories Denison University*, p. 71, "Coal-Measure Bryozoa from Flint Ridge"; in same, p. 89, he has "The Clinton Group of Ohio," Part II.; in same, p. 149, he has "The Clinton Group of Ohio," Part III.; and in *Science*, Vol. X., No. 248, p. 225, he has "Recent Methods in the Study of Bryozoa."

A. H. Foord, in *Geol. Mag., New Ser., Dec. III., Vol. IV., p. 541*, has an article "On the Genus *Piloceras* Salter, as Elucidated by Examples lately discovered in North America and in Scotland."

Persifer Frazer has "General Notes—Sketch of the Geology of York County, Pennsylvania," in *Proc. Amer. Philos. Soc., Vol. XXIII., p. 391*.

J. S. Gardner, in *Geol. Mag., New Ser., Dec. III., Vol. IV., p. 158*, has "The Appearance and Development of Dicotyledons in Time"; in *Proc. Geol. Ass., Vol. IX., No. 6, p. 433*, he has "Fossil Grasses."

Herbert Goss has an article "On Some Recently Discovered Insecta from Carboniferous and Silurian Rocks" in *Proc. Geol. Ass., Vol. IX., No. 3, p. 131*.

L. P. Gratacap, in *Proc. Nat. Sci. Ass. of Staten Island, Extra No. 6, March, 1887*, has "Preliminary List of Palæozoic Fossils found in the Drift of Staten Island"; in *Amer. Jour. Sci., Third Ser., Vol. XXXIII., p. 374*, he has "The Eozoonal Rock of Manhattan Island."

James Hall publishes "Appendix A. Catalogue of Translucent Sections of Rocks and Fossils" in *Thirty-seventh Ann. Rep. N. Y. State Mus. Nat. Hist.*"; in *Sixth Ann. Rep. State Geologist for the Year 1886*, p. 41, he has "Descriptions of Fenestellidæ of the Hamilton Group of New York"; publishes *Fifth Annual Report of the State Geologist for the Year 1885*; accompanied by a Geological Map of the State. Transmitted to the Legislature February 16, 1886. Albany: Weed, Parsons and Company, Printers, 1886, pp. 1–47, Plates XXVIII.; James Hall and George B. Simpson publish *Geological Survey of the State of New York. Palæontology: Vol. VI. Corals and Bryozoa. Text and Plates. Con-*

taining Descriptions and Figures of Species from the Lower Helderberg, Upper Helderberg and Hamilton Groups. Albany, N. Y.: Charles Van Benthuyssen & Sons, 1887, 4to, pp. I.-XXVI. and 1-298. Pls. I.-LXVI. Errata 1 lf.; James Hall publishes Geological Survey of the State of New York. Palæontology: Vol. V., Part I. Lamellibranchiata II. Text and Plates. Containing Descriptions and Figures of the Dimyaria of the Upper Helderberg, Hamilton, Portage and Chemung Groups. Albany, N. Y.: Charles Van Benthuyssen & Sons, 1885, 4to, pp. I.-LXII. and 269-561. Pls. XXXIV.-XCVI.; publishes "Note on Some Obscure Organisms in the Roofing Slates of Washington County, New York" in Thirty-ninth Ann. Rep. Trustees Sta. Mus. Nat. Hist. for 1885, p. 160; he has "Note on the Discovery of a Skeleton of an Elk (*Elaphus canadensis*)" in the town of Farmington, Ontario County" in Sixth Ann. Rep. State Geologist for the Year 1886, p. 39; he has "Note on the Occurrence of the Dictyospongidae in the State of New York" in Sixth Ann. Rep. State Geologist for the Year 1886, p. 36; he has "Report of the State Geologist" in Thirty-ninth Ann. Rep. Trustees Sta. Mus. Nat. Hist. for 1885, p. 226.

Angelo Heilprin has "Additions to the Floridian Fauna" in Trans. Wagner Free Institute of Science, Vol. I., p. 129; he publishes "Determination of the Age of Rock Deposits" in Proc. Acad. Nat. Sci. Phila., Part III., p. 395; in same, p. 314, he publishes "The Classification of the Post-Cretaceous Deposits"; he publishes "The Geographical and Geological Distribution of Animals" in the International Scientific Series, p. 1.

C. L. Herrick publishes "Additional Fossils from Coal-Measures at Flint Ridge" in Bull. Sci. Laboratories Denison University, Vol. II., Parts I. and II., p. 144; in same, p. 51, he has "Appendix I. Notes on Carboniferous Trilobites"; on page 69 he has "Appendix II. A Waverly Trilobite. A Sketch of the Geological History of Licking Co., Ohio, accompanying an Illustrated Catalogue of Coal-Measure Fossils from Flint Ridge"; in same, on p. 5, he has "A Sketch of the Geological History of Licking Co., Ohio, accompanying an Illustrated Catalogue of Coal-Measure Fossils from Flint Ridge."

Henry Hicks, in Geol. Mag., New Ser., Dec. III., Vol. IV., p. 155, has "The Cambrian Rocks of North America."

E. W. Hilgard publishes "The Equivalence in Time of American Marine and Intracontinental Tertiaries" in *Science*, Vol. IX. No. 226, p. 535.

Robert T. Hill publishes "The Cross Timbers of Texas" in *AMER. NATURALIST*, Vol. XXI., p. 172; in *Amer. Jour. Sci.*, Third Ser., Vol. XXIV., p. 287, he publishes "The Texas Section of the American Cretaceous"; in *Amer. Jour. Sci.*, Third Ser., Vol. XXXIII., p. 291, he publishes "The Topography and Geology of the Cross Timbers and Surrounding Regions in Northern Texas."

G. J. Hinde publishes "Die Versteinerungen des cambrischen Schichtensystems der Insel Sardinien, nebst vergleichenden Untersuchungen über analoge Varlomnisse aus andern Ländern" in *Geol. Mag.*, New Ser., Dec. III., Vol. IV., p. 226; in *Ann. and Mag. Nat. Hist.*, Ser. 5, Vol. XIX., p. 67.

Fanny A. M. Hitchcock, in *AMER. NATURALIST*, Vol. XXI., p. 847, has an article "On the Homologies of Edestus."

Rev. D. Honeyman has "A Revision of the Geology of Antigonish County, in Nova Scotia" in *Proc. and Trans. Nova Scotian Inst. Nat. Sci.*, 1883-6, Vol. VI., p. 308.

O. P. Hubbard has "Skeleton of a Whale found over 130 years since in the St. Lawrence River Valley near Quebec" in *Amer. Jour. Sci.*, Third Ser., Vol. XXXIII., p. 242.

Alpheus Hyatt has an article "On Primitive Forms of Cephalopods" in *AMER. NATURALIST*, Vol. XXI., p. 64; and in *Proc. Boston Soc. Nat. Hist.*, Vol. XXIII., p. 315, he has "Expedition [to Newfoundland and Labrador]."

Joseph F. James publishes in *Jour. Cincinnati Soc. Nat. Hist.*, Vol. X., No. 2, p. 70, "Account of a Well Drilled for Oil or Gas at Oxford, Ohio, May and June, 1887"; in *Science*, Vol. X., No. 250, p. 252, he has "Microscopic Sections of Corals"; in same, Vol. X., No. 242, p. 156, he has "Chalcedonized Fossils"; in *Jour. Cincinnati Soc. Nat. Hist.*, Vol. IX., No. 4, p. 244, he has "Protozoa of the Cincinnati Group"; in *Science*, Vol. X., No. 244, p. 180, he has "Sections of Fossils."

U. P. James and Joseph F. James publish an article "On the Monticuliporoid Corals of the Cincinnati Group, with a Critical Revision of the Species," in *Jour. Cincinnati Soc. Nat. Hist.*, Vol. X., No. 3, p. 118.

U. P. James has "Genus *Agelacrinus* Vanuxem, *Agelacrinus holbrookii*," in Jour. Cincinnati Soc. Nat. Hist., Vol. X., No. 1, p. 25.

George F. Kunz has "Jasperized and Agatized Wood from Arizona" in Trans. N. Y. Acad. Sci., Vol. VI., p. 165.

L'Abbé J. C. Laflamme has "Note sur le contact des formations paléozoïques et archéennes de la province de Québec" (Lu le 28 Mai, 1886) in Trans. Roy. Soc. Canada for 1886, Section IV., p. 43.

Chas. Lapworth publishes "Fossils from Kicking Horse Pass, Manitoba," in Science, Vol. IX., No. 217, p. 230; also, "Preliminary Report on Some Graptolites from the Lower Palæozoic Rocks on the South Side of the St. Lawrence from Cape Rosier to Tartigo River, from the North Shore of the Island of Orleans, one mile above Cape Rouge, and from the Cave Fields, Quebec," in Trans. Roy. Soc. Canada for 1886, Section IV., p. 167.

Joseph Leidy has "Fossil Bones from Florida" in Proc. Acad. Nat. Sci. Phila., Part III., p. 309.

A. T. Lilley publishes "A Revision of the Section of Chemung Rocks exposed in the Gulf Broad Gorge, at Le Roy, in Bradford Co., Pennsylvania," in Proc. Amer. Phil. Soc., Vol. XXIII., p. 291.

A. P. Law has "Preliminary Report on an Exploration of Country between Lake Winnipeg and Hudson Bay" in Part F. Annual Report, 1886, Geological and Natural History Survey of Canada, p. 1.

Richard Lydekker has an article on "The Order Ungulata, Suborder Proboscidea," in Catalogue of the Fossil Mammalia in the British Museum (Natural History), p. 1.

A. McCharles has "The Footsteps of Time in the Red River Valley, with Special Reference to the Salt Springs and Flaming Wells to be Found in it," in the Hist. and Sci. Soc. of Manitoba Trans., No. 27, Season, 1886-7, p. 1; in Trans. Geol. Soc. Edinburgh, Vol. V., Part II., p. 331, he has "Notes on the Geology of the Winnipeg District, Manitoba."

R. G. McConnel, in Part D, Annual Report, 1886, Geological and Natural History Survey of Canada, p. 1, has "Report on the Geological Structure of a Portion of the Rocky Mountains, accompanied by a Section measured near the 51st Parallel."

W. J. McGee has an article on "*Ovibos cavifrons* from the Loess of Iowa" in Amer. Jour. Sci., Third Ser., Vol. XXXIV., p. 217.

J. B. Marcou has "Review of the Progress of North American Palæontology for the Year 1886" in AMER. NATURALIST, Vol. XXI., p. 532.

Jules Marcou has an article "On the Use of the Name Taconic" in Proc. Boston Soc. Nat. Hist., Vol. XXIII., p. 343.

O. C. Marsh has "American Jurassic Mammals" in Amer. Jour. Sci., Third Ser., Vol. XXXIII., p. 327; in same, Vol. XXXIV., Append. p. 324, he has "Notice of New Fossil Mammals"; in same, page 412, he has "Principal Characters of American Jurassic Dinosaurs. Part IX. The Skull and Dermal Armor of *Stegosaurus*."

G. F. Matthew has "A Preliminary Notice of a New Genus of Silurian Fishes" in Bull. Nat. Hist. Soc. New Brunswick, No. 6, p. 69; in Canad. Rec. Sci., Vol. II., p. 323, he has "Additional Note on the Pteraspidian Fish found in New Brunswick"; in same, p. 357, he has an article "On the Smaller-eyed Trilobites of Division I., with a few Remarks on the Species of the Higher Divisions of the Group"; in Amer. Jour. Sci., Third Ser., Vol. XXXIII., p. 388, he has "The Great Acadian Paradoxides"; in same, p. 390, he has an article "On the Kin of Paradoxides (*Olenellus*) *Kjerulfi*"; in Canad. Rec. Sci., Vol. II., p. 432, he has "Illustrations of the Fauna of the St. John Group. No. IV. On the Smaller-eyed Trilobites of Division I., with a few Remarks on the Higher Divisions of the Group"; in same, p. 434, he has "Illustrations of the Fauna of the St. John Group. No. 5. On the Great Acadian Trilobite, *Paradoxides Regina*"; in Trans. Roy. Soc. Canada for 1886, Section IV., p. 147, he has an article "On the Cambrian Faunas of Cape Breton and Newfoundland."

F. J. H. Merrill has "Note on the Green Pond Mountain Group of New Jersey" in Trans. N. Y. Acad. Sci., Vol. VI., p. 59.

Otto Meyer has an article "On Invertebrates from the Eocene of Mississippi and Alabama" in Proc. Acad. Nat. Sci. Phila., Part I., p. 51; he has "Beitrag zur Kenntniss der Fauna des Altertteriärs von Mississippi und Alabama" in Bericht über die Senckenbergische naturforschende Gesellschaft in Frankfurt am Main, 1887. Vorläger und Abhandlungen, pp. 1-22, pls. I.-II. Frankfurt a. Mt.

L. C. Miall and Alfred Denny have "The Structure and Life history of the Cockroach (*Periplaneta orientalis*), an Introduction, to the Study of Insects" in Ann. and Mag. Nat. Hist., Ser. 5, Vol. XIX., p. 389.

David R. Moore has "Fossil Corals of Franklin County, Indiana" in Bull. Brookville Soc. Nat. Hist., No. 2, p. 50.

Frank L. Nason, in Am. Jour. Sci., Third Ser., Vol. XXXIV., p. 485, has an article "On the Location of Some Vertebrate Fossil Beds in Honduras, C. A."

J. S. Newberry has "The Fauna and Flora of the Trias of New Jersey and the Connecticut Valley" in Trans. N. Y. Acad. Sci. Vol. VI., p. 124; in same, p. 137, he has "Cœlosteus, a new Genus of Fishes from the Lower Carboniferous Limestone of Illinois"; in same, p. 164, he has "Description of a New Species of Titanichthys."

H. Alleyne Nicholson has, in Ann. and Mag. Nat. Hist., Ser. 5, Vol. XIX., p. 1, an article "On Some New or Imperfectly Known Species of Stromatoporoids. Part III."

Henry F. Osborn has "A Pineal Eye in the Mesozoic Mammalia" in Science, Vol. IX., No. 208, p. 92; in same, No. 209, p. 114, he has "The Pineal Eye in Tritylodon"; in same, No. 226, p. 538, he has "No Parietal Foramen in Tritylodon"; in Proc. Acad. Nat. Sci. Phila., Part II., p. 282, he has an article "On the Structure and Classification of the Mesozoic Mammalia"; in AMER. NATURALIST, Vol. XXI., p. 1020, he has "Note upon the Genus Anthrodon"; in Science, Vol. X., No. 254, p. 300,

Richard Owen has "American Evidences of Eocene Mammals of the 'Plastic Clay' Period" in Rep. British A. A. A. S., 1886, Aberdeen Meeting, p. 1033.

A. S. Packard has "Discovery of the Thoracic Feet in a Carboniferous Phyllocaridan" in Proc. Amer. Phil. Soc., Vol. XXIII., p. 380; in AMER. NATURALIST, Vol. XXI., p. 1100, he has "Fossil Arthropods"; in Nat. Acad. Sci., Vol. III., Fifteenth Mem., p. 135, he has an article "On the Anthracaridæ, a Family of Carboniferous Macrurous Decapod Crustacea"; in same, Sixteenth Mem., p. 143, he has an article "On the Carboniferous Xiphosurous Fauna of North America"; in Ann. and Mag. Nat. Hist., Ser. 5, Vol. XIX., p. 164, he has an article "On the Class Podostomata,

a Group embracing the Marostomata and Tribolites"; in Nat. Acad. Sci., Vol. III., Fifteenth Mem., p. 129, he has "On the Gampsonychidæ, an Undescribed Family of Schizopod Crustacea"; in same, p. 123, he has "On the Syncarida, a hitherto Undescribed Synthetic Group of Extinct Malacostracous Crustacea."

Marie Pavlow has an article entitled "Etudes sur l'Histoire Paléontologique des Ongulés en Amérique et en Europe 1 Groupe primitif de l'éocène inférieur" in Bull. Soc. Imp. des Nats. de Moscou Année 1887, No. 2, p. 343.

Charles S. Prosser, in Proc. Amer. Ass. Adv. Sci., Vol. XXXVI., p. 216, has "The Upper Hamilton of Chenango and Otsego Counties, New York.

Ferd. Rømer has "Ueber H. v. Meyer's Mastodon Humboldtii Cuv. aus Mexico" in Neu. Jahrb. für Min. Geol. & Pal., 1887, Band I., p. 114.

C. Rominger has "Description of a New Form of Bryozoa" in Proc. Acad. Nat. Sci. Phila., Part I., p. 11; in same, p. 12, he has "Description of Primordial Fossils from Mount Stephens, N. W. Territory of Canada."

Scott, W. B., and Osborn, H. F., have "Preliminary Account of the Fossil Mammals from the White River Formation contained in the Museum of Comparative Zoology" in Bull. Mus. Comparative Zool. Harvard College, Vol. XIII., No. 5, p. 151.

S. H. Scudder has "Fossil Insects" in Science, Suppl., Vol. IX., No. 221, p. 426.

H. P. Smith has "*Bison latifrons*" Leidy, in Journ. Cincinnati Soc. Nat. Hist., Vol. X., No. 1, p. 19.

L. v. Tausch has "Ueber die Beziehungen der Fauna der nicht marinen Kreidebildungen von Ajke im Bakony zu jener der Laramiebildungen Nord-Amerikas" in k. k. geol. Reich. Verhand., 1886, Nos. 7-18, p. 180-4, Vienna, 1886.

A. S. Tiffany, Rev. Dr. Barris, The Critic, Reviewed.

E. O. Ulrich has "Silurian and Devonian Fossils" in AMER. NATURALIST, Vol. XXI., p. 69, January, 1887.

Carl Vogt has an article "On Some Darwinistic Heresies" in Ann. and Mag. Nat. Hist., Series 5, Vol. XIX., p. 57.

C. Wachsmuth and F. Springer, in Proc. Acad. Nat. Sci. Phila., Part I., p. 82, has "The Summit Plates in Blastoids, Crinoids and Cystids, and their Morphological Relations."

C. D. Walcott has "Fauna of the 'Upper Taconic' of Emmons, in Washington Co., N. Y., with Plate I." in *Amer. Jour. Sci.*, 3d Ser., Vol. XXXIV., p. 187; in same, p. 145, he has "Note on the Genus *Archeocyathus* of Billings"; in same, Vol. XXXIII., p. 153, he has "The Taconic System."

L. F. Ward has "Synopsis of the Flora of the Laramie Group" in *Dept. Int. U. S. Geol. Surv. Ann. Rept. Director*, 1884-5, p. 405, pls. XXXI.-LXV.; in *Bull. U. S. Geol. Surv.*, No. 37, p. 1, pls. I.-LVII., he has "Types of the Laramie Flora."

C. A. White has an article "On New Generic Forms of Cretaceous Mollusca and their Relation to other Forms" in *Proc. Acad. Nat. Sci. Phila.*, Part I., p. 32, pl. II.; in *Amer. Jour. Sci.*, Third Ser., Vol. XXXIII., p. 18, he has one "On the Age of the Coal found in the Region traversed by the Rio Grande"; in *Proc. and Nat. Sci. Phila.*, Part I., p. 39, he has one "On the Cretaceous Formations of Texas and their Relations to those of Other Portions of North America"; in *Amer. Jour. Sci.*, Third Ser., Vol. XXXIII., p. 364, he has one "On the Inter-Relation of Contemporaneous Fossil Faunas and Floras."

J. F. Whiteaves has "Illustrations of the Fossil Fishes of the Devonian Rocks of Canada, Part I. (read May 27 and revised July 26, 1886)," in *Trans. Roy. Soc. Canada* for 1886, Section IV., p. 101.

R. P. Whitfield has "New New Jersey Cretaceous" in *AMER. NATURALIST*, Vol. XXI., p. 66.

S. G. Williams has "Note on the Lower Helderberg Rocks of Cayuga Lake (communicated to the Report of the State Geologist for 1886)" in *Sixth Ann. Rep. State Geologist* for the year 1886, p. 10, Albany, 1887; in same, p. 13, he has "The Tully Limestone, its Distribution and its Known Fossils."

L. R. Witherell has "Some Facts from the Age of Horns" in *Jour. of Sci. and Art*, Vol. I., No. 2, p. 323.

J. H. Wood has "Desiccated Bodies (5) from a cave in the Bad Lands of Dakota" in *Science*, Vol. IX., No. 213, p. 213.

A. S. Woodward has "The History of Fossil Crocodiles" in *Proc. Geol. Ass.*, Vol. IX., February, 1886, No. 5, p. 288, London Univ. College, 1887.

H. Woodward, has an article "On 'Flightless Birds,' commonly

called 'Wingless Birds,' Fossil and Recent, and a Few Words on Birds as a Class," in *Proc. Geol. Ass.*, Vol. IX., February, 1886, No. 5, p. 352, pls. I.-II., London Univ. College, 1887.

L. Woolman has "Geological Results of the Boring of an Artesian Well at Atlantic City, N. J.," in *Proc. Acad. Nat. Sci. Phila.*, Part III., p. 339.

J. L. Wortman has an article "On the Teeth of the Vertebrata" in *AMER. NATURALIST*, Vol. XXI., p. 463.

J. Young has "Note on a New Family of the Polyzoa—Cystodictyonidæ (E. O. Ulrich)—with Notice of Three Carboniferous Species," in *Trans. Edinburgh Geol. Soc.*, Vol. V., Part III., p. 461.

THE DIKES OF THE HUDSON RIVER HIGHLANDS.

BY J. F. KEMP.

THE cuts of the West Shore Railway, on the Hudson river, above Haverstraw, and below Cornwall, have done much service to geology in bringing to light the subsurface and unaltered structure of the Archæan rocks. The Stony Point cut did more than any other exposure to convince Professor J. D. Dana of the intrusive character of the now famous Cortlandt series.¹ It exhibits as well one of the most interesting examples of the contortion of mica schists on the contact with intrusive rocks which any known area affords. Here also Dr. Geo. H. Williams found the types of his hornblende-peridotite,² and was especially aided in his careful studies of the series. Beyond Stony Point the railway crosses the belt of blue limestone so extensively quarried at Tomkins' Cove, and then in the foot of the Dunderberg meets the main mass of the Highland Archæan. Through this it has made its way by cuts, excavations and tunneling a distance of seventeen miles to Cornwall, where it again passes off the Archæan.

¹ *Am. Jour. Sci.*, III Series, vol. xxviii., p. 384.

² *Ibid.*, vol. xxxi., p. 29.